

ABSTRACT OF THE DISCLOSURE

1 A method of fabricating nanosized holes with controlled
2 geometries employs tools and methods developed in the microelectronics
3 industry. The method exploits the fact that epitaxially grown film thicknesses
4 can be controlled within a few atomic monolayers and that by using etching
5 techniques, trenches and channels can be created that are only a few
6 nanometers wide. The method involves bonding two shallow channels at
7 an angle such that a nanopore is defined by the intersection. Thus, a
8 nanopore-defining device includes a nanopore with dimensions that are
9 determined by the dimensions and orientations of the intersecting channels,
10 with the dimensions being accurately controlled within a few monolayers.

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